

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Applicant: Serge Louis Boulet	Group Art Unit: 1625
Serial No.: 10/597,795	Examiner: David K. O'Dell
Application Date: February 11, 2005	Conf No.: 6451
US Nat'l Entry Date (if applicable): August 8, 2006	
For: 4-AMINO-PIPERIDINE DERIVATIVES AS MONOAMINE UPTAKE INHIBITORS	
Docket No.: X-16400	

REPLY UNDER 37 C.F.R. 1.111

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is in response to the Office action of January 8, 2008. The Examiner has objected to Claim 16 for not depending from a preceding claim. Applicants wish to bring the Examiner's attention 37 C.F.R. § 1.126:

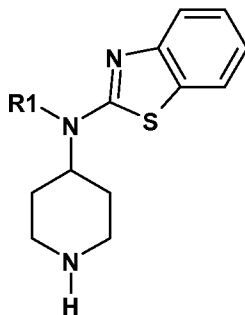
“The original numbering of the claims must be preserved throughout the prosecution. When claims are canceled the remaining claims must not be renumbered. When claims are added, they must be numbered by the applicant consecutively beginning with the number next following the highest numbered claim previously presented (whether entered or not). When the application is ready for allowance, the examiner, if necessary, will renumber the claims consecutively in the order in which they appear or in such order as may have been requested by applicant.”

Claims 1-15 were cancelled in the preliminary amendment dated August 8, 2007. With the loss of an antecedent claim, claim 16 was amended to depend on new claim 19 in that same action. Because claim 16 was not cancelled, the original claim number **must** be preserved by rule. Reference to claim 19 in claim 16 is both proper and unavoidable. Pursuant to 37 C.F.R. § 1.126,

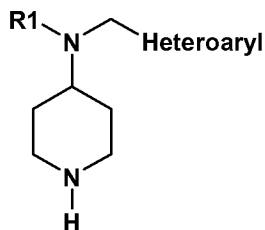
claims may be renumbered, if necessary, when the application is ready for allowance. Withdrawal of the objection to claim 16 is respectfully requested.

Claims 16 and 19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent #4,861,785 (Stockbroekx) because certain of the presently claimed compounds are allegedly related as adjacent homologs to the compounds disclosed in Stockbroekx. Applicants assert that this rejection is improper because the presently claimed compounds are not *prima facie* obvious in view of Stockbroekx. Reconsideration and withdrawal of the rejection in view of the following discussion are respectfully requested.

“[I]n cases involving new chemical compounds, it remains necessary to identify some reason that would have led a chemist to modify a known compound in a particular manner to establish *prima facie* obviousness of a new claimed compound.” (*Takeda Chemical Industries Ltd. v. Alphapharm Pty, Ltd.*, 83 USPQ2d 1169, 1174 (Fed. Cir. 2007)) Stockbroekx discloses compounds of the following structure:



where R1 is defined to be hydrogen, C₁₋₆ alkyl, or aryl C₁₋₆ alkyl. The pending claims encompass compounds of the following formula:

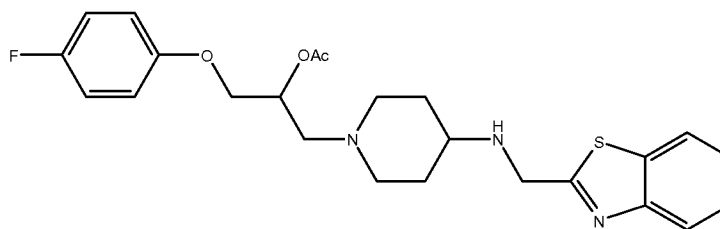


where R1 is cyclopropylmethyl or C₃-C₅ alkyl optionally substituted with hydroxy; and Heteroaryl is thienyl, benzothienyl, thiazolyl, or benzothiazolyl each optionally substituted with one or two substituents independently selected from methyl and halo. Although the Examiner references Stockbroekx compounds 69, 76, 77, 78, 81, 82, 84, 86, 87, and 89, only those compounds where R1 is butyl (Compound 77) and R1 is isopropyl (Compound 84) are adjacent

homologs to compounds to presently claimed compounds where R1 is C₃-C₅ alkyl and Heteroaryl is benzothiazol-2-yl. Because the skilled artisan would find no motivation to select compounds 77 and 84 of Stockbroekx for modification, the Examiner has not established a case of *prima facie* obviousness.

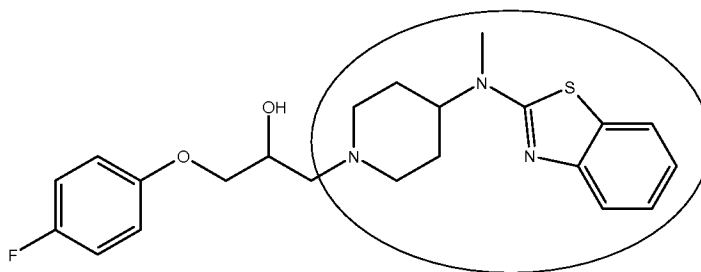
As a threshold matter, compounds 77 and 84 of Stockbroekx are taught to be useful only as synthetic intermediates for compounds bearing moieties other than hydrogen at the piperidine nitrogen. There is no motivation to select either of these intermediates for modification, therefore, unless there is motivation to prepare the corresponding final compounds taught in Stockbroekx. Although the variable R1 in Stockbroekx is taught preferably as C₁₋₆ alkyl (column 3, lines 28-30), the most preferred final compound has R1=methyl (column 3, lines 31-33). The motivation, therefore, is to select compounds where R1 is methyl for further modification, not compounds where R1 is butyl or isopropyl. As such, the presently claimed compounds differ by at least a two carbon homologation at R1 in addition to the homologation between the benzothiazole and the pendant amino group from a preferred Stockbroekx intermediate bearing a methyl group at R1. Furthermore, Stockbroekx clearly demonstrates that the intermediates relied upon by the Examiner are not even necessary to prepare the final compounds of the invention. The intermediate or Formula (V) (column 4, line 55) and the schemes in column 6, lines 1-20; column 7, lines 16-44; and column 11, lines 3-38 as well as Examples 5-11 of Stockbroekx clearly show the preparation of final compounds without the need to generate the intermediates relied upon by the Examiner. The skilled artisan is, therefore, not motivated by Stockbroekx to select compounds adjacent homologs of the presently claimed compounds for further modification and is not informed by Stockbroekx that there is a need to prepare the specific intermediates relied on by the Examiner to prepare the corresponding Stockbroekx final compounds.

The Examiner also relies on the following structure in Chemical Abstracts to support motivation by Stockbroekx to prepare the presently claimed compounds:



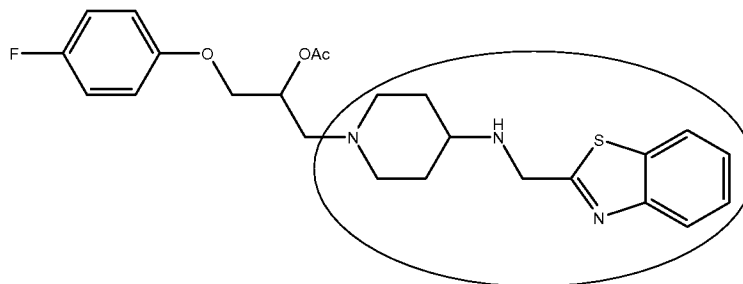
(4)

As shown in the structure (5) below, the portion of the Stockbroekx compounds containing a benzothiazolyl moiety, shown in the circle, are named as follows: (benzothiazolyl)methylamino. *See, e.g., Id.*, column 45 (listing of compound names).



(5)

Whereas, the portion of compound (4), shown in the circle below, which was cited by the Examiner and not disclosed in Stockbroekx, are named: (benzothiazolylmethyl)amino.



(4)

Although structurally distinct, the nomenclature of the compounds are similar, differing in the placement of the right parenthesis. It is submitted that a nomenclature error resulted in compound (4) being attributed to the Stockbroekx disclosure. Applicants note that because compound (4) does not fall within the scope of Stockbroekx, it has no known utility. Applicants submit that the skilled artisan would not select a compound that lacks any known utility for further modification. Withdrawal of this rejection and allowance of the claims in view of the foregoing discussion are respectfully requested.

The Examiner has also provisionally rejected claims 16 and 19 on the ground of nonstatutory obviousness-type double patenting in view of claims 1, 2, 4, 5, 12-14, and 22 of copending Application No. 10/558,588 and claims 1 and 20 of copending Application No. 11/568,641. Because no claims are allowed in either of the co-pending applications, Applicants

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assert that the double patenting rejection is inappropriate at this time. Withdrawal of this rejection and allowance of the claims are respectfully requested.

Respectfully submitted,

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